Read FAST Unstructured Data

Introduction

EnSight supports files written in the FAST Unstructured data format. The FAST format was designed by NASA as an adjunct to the PLOT3D format to store unstructured triangle and tetrahedral data. The triangles have associated tag numbers that permit them to be grouped into EnSight parts. Variables are stored either in a standard PLOT3D solution (Q) file or in a FAST function file.

Reading data into EnSight is a two-step process. First, the appropriate files are selected. This step is largely the same regardless of the format of the data being read. Second, parts are constructed using an interface that is specific to the applicable data format. This article covers the second step for FAST data. See **How To Read Data** for more information on selecting the appropriate files. **Note that the solution (or function) file should NOT be specified in the (Set) Result slot. Instead a modified version of the standard EnSight results file must be used. See FAST UNSTRUCTURED Results File Format for more information.**

FAST datasets consist of the following files. Note that the entry in the File Name column is only a suggestion – it typically does not matter to EnSight what the actual file name is.

File	File Name	Notes	Required?
Geometry	file.geo	Contains coordinates and element connectivity.	required
Result	file.res	Provides additional information about the dataset (such as time information) as well as pointers to the files actually containing the variable data. **Note:** This is a special version of the EnSight results file! See FAST UNSTRUCTURED Results File Format for more information.	optional
Solution file	file.q	Standard PLOT3D format solution file	optional
Function file	file.f	Standard PLOT3D/FAST function file.	optional

Basic Operation

After you have specified the appropriate data files with the File Selector (opened with File > Data (Reader)... as discussed in **How To Read Data**) and clicked Okay, the Data Part Loader (FAST) dialog will open. You use this dialog to build the desired parts. To build parts for the FAST format data:

All parts defined in the geometry file will be loaded to the EnSight server. However, you have a choice for the initial visual representation of some parts as displayed on the client. The choice is made with the Load pull-down:

All Parts: all parts are loaded to the client in the default visual representation (typically 3D Border, 2D Full).

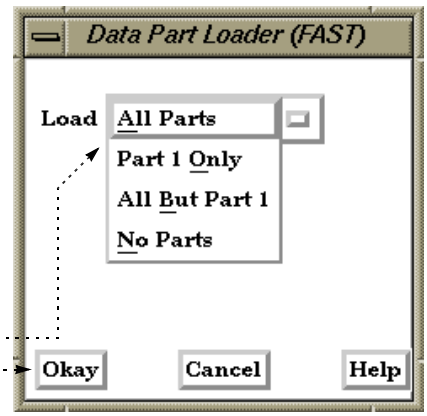
Part 1 Only: Only the first part is loaded to the client in the default visual representation. The other parts will have the NonVisual representation.

All But Part 1: All parts *other* than part 1 are loaded to the client in the default visual representation. Part 1 will be NonVisual.

No Parts: No parts are loaded to the client (*i.e.* the representation of all parts is set to NonVisual).

With FAST geometry, a good choice is All But Part 1 (which is the tet mesh).

Note that you can easily change the visual representation of a part at any time. See **How To Change Visual Representation** for more information.



2. Select the desired Load option.

3. Click Okay.

The parts are named as follows. Any tetrahedral elements will be grouped into one part named “Tet Domain”. If any triangles are present, they will be grouped into parts based on tag number and named “Tri_tag N” where N is the tag number.

See Also

How To Read Data

User Manual: **FAST UNSTRUCTURED Reader**
FAST UNSTRUCTURED Results File Format